

Mineral Industry Surveys

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COBALT IN AUGUST 2004

On the basis of preliminary data, U.S. cobalt consumption during January through August 2004 was nearly equal in amount to that consumed during the first 8 months of 2003, according to the U.S. Geological Survey.

The amount of cobalt contained in U.S. imports of cobalt metals and chemicals was 6% higher during January through July 2004 than that of imports during the same period in 2003. The amount of cobalt contained in U.S. exports of unwrought cobalt and chemicals was 5% higher during January through July 2004 than that of exports during the same period in 2003. Trade data for August 2004 will be available in a subsequent issue.

Price

Prices for electrolytic cobalt, in dollars per pound from Platts Metals Week, are listed below.

<u>Date</u>	<u>Price range</u>
September 23	22.50-23.50
September 30	21.50-23.50
October 7	21.50-23.25

<u>Month</u>	<u>Average price</u>
September	23.09

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Metal ²	Oxide and other chemical compounds ³	Scrap	Total
2003:				
August	254	164	167	585
September	259	168	167	594
October	252	165	167	584
November	265	155	167	588
December	241	156	167	565
January-August	2,040 ^r	1,310	1,340	4,680 ^r
January-December ⁴	3,060	1,950	2,010	7,010
2004:				
January	263	219 ^r	167	649 ^r
February	258	178 ^r	167	604 ^r
March	233	165 ^r	167	565 ^r
April	237	169 ^r	167	574 ^r
May	237	156 ^r	167	561 ^r
June	240	179 ^r	167	586 ^r
July	253	155 ^r	167	575 ^r
August	241	161	167	569
January-August	1,960	1,380	1,340	4,680

^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes metal powder.

³Data may include other cobalt materials.

⁴Data based on monthly reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE¹

(Metric tons, contained cobalt)

End use	2003		2004	
	January- August ^r	January- December ²	August	January August ³
Steel	246	366	40	294
Superalloys	2,110	3,170	242	2,000
Magnetic alloys	257	385	29	226
Other alloys ⁴	W	W	W	W
Cemented carbides ⁵	449	679	59	465
Chemical and ceramic uses ⁶	1,430	2,140	177	1,510
Miscellaneous and unspecified	182	272	23	180
Total	4,680	7,010	569	4,680

^rRevised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Data based on monthly reports.

³May include revisions to prior months.

⁴Includes nonferrous alloys, welding materials, and wear-resistant alloys.

⁵Includes diamond tool matrices, cemented and sintered carbides, and cast carbide dies or parts.

⁶Includes catalysts, driers in paints or related usages, feed or nutritive additives, glass decolorizer, ground coat frit, pigments, and other uses.

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS¹

(Metric tons, contained cobalt)

Period	Industry ²				U.S. Government, metal ⁵
	Metal ³	Oxide and other chemical compounds ⁴	Scrap	Total	
2003:					
August	387	206	188	781	4,990
September	402	206	188	795	4,930
October	396	203	188	787	4,750
November	368	203	188	759	4,640
December ⁶	387	204	188	779	4,290
2004:					
January	358	204	104	666	3,900
February	325	193	104	622	3,410
March	363	218	104	685	3,120
April	338	207	104	650	2,980
May	338	202	104	644	2,860
June	334	202	104	640	2,800
July	343	189	104	636	2,740
August	328	201	104	634	2,730

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Stocks reported by cobalt processors and consumers.

³Includes metal powder.

⁴Data may include other cobalt materials.

⁵Data from Defense National Stockpile Center. Includes material committed for sale pending shipment.

⁶Data based on monthly reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2003:								
July	641,000	\$13,000,000	104,000	\$1,690,000	130,000	\$824,000	752,000	4,730,000
August	390,000 ⁷	8,440,000 ⁷	59,100	963,000	70,700	480,000	452,000	5,180,000
September	712,000	14,000,000	92,800	1,560,000	166,000	1,160,000	831,000	6,010,000
October	526,000	11,100,000	100,000	1,660,000	152,000	1,060,000	644,000	6,660,000
November	553,000	12,300,000	104,000	1,720,000	77,900	488,000	651,000	7,310,000
December	632,000	16,300,000	131,000	2,540,000	121,000	996,000	770,000	8,080,000
January-July	3,890,000	72,700,000	879,000	14,600,000	759,000	4,160,000	4,730,000	XX
January-December	6,700,000	135,000,000	1,370,000	23,000,000	1,350,000	8,350,000	8,080,000	XX
2004:								
January	525,000	17,100,000	131,000	2,710,000	172,000	1,620,000	677,000	677,000
February	862,000	25,400,000	139,000	3,940,000	178,000	2,380,000	1,020,000	1,700,000
March	680,000	29,900,000	126,000	4,290,000	119,000	1,030,000	804,000	2,500,000
April	591,000	28,000,000	81,100	2,630,000	130,000	1,910,000	690,000	3,190,000
May	404,000	20,300,000	40,100	1,760,000	38,900	613,000	446,000	3,640,000
June	609,000	30,600,000	148,000	6,170,000	158,000	2,240,000	763,000	4,400,000
July:								
Australia	52,300	1,720,000	--	--	--	--	52,300	227,000
Belgium	126,000	2,730,000	57,600	2,450,000	--	--	168,000	660,000
Brazil	--	--	--	--	--	--	--	6,360
Canada	24,000	1,300,000	--	--	--	--	24,000	761,000
China	43,000	998,000	5,800	225,000	69,300	929,000	68,400	449,000
Colombia	--	--	--	--	--	--	--	518
Finland	32,600	2,010,000	31,800	1,260,000	41,500	822,000	72,600	535,000
France	1,950	185,000	1,500	112,000	--	--	3,030	58,200
Germany	2,180	133,000	--	--	--	--	2,180	32,500
India	--	--	--	--	--	--	--	26,800
Italy	--	--	--	--	--	--	--	387
Japan	15,100	1,080,000	--	--	9,410	129,000	17,500	85,900
Korea, Republic of	400	31,200	--	--	--	--	400	6,650
Mexico	--	--	--	--	1,600	6,130	431	629
Netherlands	--	--	--	--	--	--	--	14
Norway	52,000	2,810,000	--	--	--	--	52,000	789,000
Philippines	--	--	--	--	--	--	--	5,780
Russia	36,200	1,950,000	--	--	--	--	36,200	858,000
South Africa	--	--	--	--	--	--	--	87,900
Spain	--	--	--	--	--	--	--	1,120
Sweden	1,330	67,600	--	--	--	--	1,330	4,700
Switzerland	--	--	--	--	--	--	--	4,700
Taiwan	--	--	--	--	43,000	63,000	11,600	13,300
United Kingdom	1,080	38,400	20,600	738,000	17,300	257,000	20,200	97,000
Zambia	69,300	3,590,000	--	--	--	--	69,300	287,000
Total	458,000	18,700,000	117,000	4,790,000	182,000	2,210,000	599,000	5,000,000
January-July	4,130,000	170,000,000	783,000	26,300,000	978,000	12,000,000	5,000,000	XX

XX Not applicable. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder; may include intermediate products of cobalt metallurgy.

³Includes cobalt acetates, cobalt carbonates, cobalt chlorides, and cobalt sulfates.

⁴Customs value.

⁵Estimated from gross weights.

⁶May include revisions to prior months.

⁷All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY ¹

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Cobalt waste and scrap		Wrought cobalt and cobalt articles	
	Quantity	Value ²	Quantity	Value ²	Quantity	Value ²
2003:						
July	230	\$14,600	30,600	\$175,000	18,400	\$1,280,000
August	440	23,500	86,200	618,000	14,400	787,000
September	475	13,000	10,700	126,000	9,410	646,000
October	8,170	84,200	47,900	324,000	11,300	810,000
November	2,870	83,200	68,700	479,000	11,300	646,000
December	2,140	66,400	53,400	432,000	13,100	1,010,000
January-July	14,900	447,000	215,000	1,990,000	108,000	6,810,000
January-December	29,000	717,000	482,000	3,970,000	167,000	10,700,000
2004:						
January	2,250	100,000	48,900	614,000	11,400	807,000
February	4,450	118,000	152,000	1,500,000	20,000	856,000
March	6,630	363,000	102,000	1,030,000	20,500	1,290,000
April	13,300	548,000	123,000	1,190,000	10,400	843,000
May	9,330	299,000	78,000	514,000	15,000	1,020,000
June	3,330	163,000	111,000	1,510,000	15,700	1,170,000
July:						
Austria	111	6,670	--	--	--	--
Belgium	--	--	--	--	2,680	204,000
Brazil	--	--	6,000	146,000	--	--
Canada	--	--	--	--	1,510	286,000
China	11,300	544,000	--	--	69	5,580
France	--	--	12,900	245,000	3,070	209,000
Germany	--	--	--	--	76	11,900
Ireland	--	--	12,700	153,000	--	--
Japan	900	51,300	6,320	59,500	3,400	145,000
Switzerland	--	--	--	--	8	2,370
United Kingdom	1,830	84,700	19,500	352,000	9,570	567,000
Total	14,100	687,000	57,400	955,000	20,400	1,430,000
January-July	53,400	2,280,000	673,000	7,320,000	113,000	7,410,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Customs value.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS¹

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap ²		Oxides and hydroxides		Salts and compounds ³		Total cobalt content for the month ⁵	Cobalt content, year to date ^{5, 6}
	Quantity	Value ⁴	Quantity	Value ⁴	Quantity	Value ⁴		
2003:								
July	191,000	\$6,570,000	43,000	\$845,000	41,800	\$294,000	232,000	1,510,000
August	187,000	4,270,000	17,400	338,000	56,600	324,000	213,000	1,720,000
September	227,000	3,980,000	15,200	191,000	10,000	57,100	240,000	1,960,000
October	184,000	2,890,000	9,310	166,000	118,000	603,000	219,000	2,180,000
November	137,000	3,650,000	54,500	1,010,000	70,600	447,000	193,000	2,370,000
December	306,000	6,820,000	29,500	778,000	46,200	259,000	338,000	2,710,000
January-July	1,250,000	27,000,000	249,000	3,630,000	314,000	1,680,000	1,510,000	XX
January-December	2,290,000	48,600,000	375,000	6,110,000	615,000	3,370,000	2,710,000	XX
2004:								
January	183,000	4,730,000	36,600	1,430,000	75,500	458,000	228,000	228,000
February	214,000	9,000,000	80,500	3,750,000	65,800	761,000	288,000	516,000
March	232,000	9,740,000	11,400	359,000	78,700	708,000	260,000	776,000
April	154,000	6,530,000	14,600	531,000	82,700	867,000	185,000	960,000
May	205,000	8,000,000	62,000	3,130,000	14,600	166,000	254,000	1,210,000
June	134,000	5,520,000	11,300	440,000	17,700	215,000	147,000	1,360,000
July	203,000	8,580,000	15,400	527,000	41,700	480,000	224,000	1,580,000
January-July	1,330,000	52,100,000	232,000	10,200,000	377,000	3,660,000	1,580,000	XX

XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other intermediate products of cobalt metallurgy and unwrought cobalt alloys.

³Cobalt acetates and cobalt chlorides.

⁴Free alongside ship (f.a.s.) value.

⁵Estimated from gross weights.

⁶Year to date may include revisions to prior months.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES¹

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value ²	Quantity	Value ²
2003:				
July	69,200	\$2,240,000	33,100 ³	\$372,000 ³
August	65,500	2,720,000	73,700 ³	473,000 ³
September	89,600	3,090,000	32,100 ³	149,000 ³
October	116,000	3,150,000	74,400 ³	979,000 ³
November	97,000	2,440,000	29,000 ³	559,000 ³
December	83,300	2,470,000	76,000 ³	1,990,000 ³
January-July	554,000	17,400,000	332,000	1,420,000
January-December	1,010,000	31,300,000	617,000	5,560,000
2004:				
January	50,900	2,400,000	126,000	4,320,000
February	94,600	3,680,000	295,000	3,290,000
March	77,000	3,840,000	123,000	6,140,000
April	78,100	3,300,000	110,000	1,600,000
May	129,000	4,920,000	103,000	2,250,000
June	113,000	3,610,000	22,700	1,190,000
July	89,600	3,520,000	14,100	709,000
January-July	632,000	25,300,000	795,000	19,500,000

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Free alongside ship (f.a.s.) value.

³All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau, with adjustments by the U.S. Geological Survey.